

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 C07K14/47 C07K16/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, SEQUENCE SEARCH, WPI Data, PAJ, MEDLINE, BIOSIS, EMBASE, CHEM ABS Data, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>EP 1 074 617 A (HELIX RES INST) 7 February 2001 (2001-02-07) * see especially SEQ ID NO:12429, reflected by gene accession number AAH14710 * abstract; claims 8-15 & DATABASE EMBL 'Online! 26 June 2001 (2001-06-26) OTA T ET AL.: "Human cDNA sequence SEQ ID NO:12429" retrieved from EMBL Database accession no. AAH14710 abstract</p> <p style="text-align: center;">--- -/-</p>	<p>31-33, 35,37-47</p>

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

4 February 2004

Date of mailing of the international search report

19/02/2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 03/01320

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE GENBANK 'Online! Accession number AK001779, 22 February 2000 (2000-02-22) ISOGAI T AND OTSUKI T: "NEDO human cDNA sequencing project" XP002268960 abstract	31-33, 35,37-47
A	POPOVIC M ET AL.: "Fine mapping of the locus for Shwachman-Diamond syndrome at 7q11, identification of shared disease haplotypes, and exclusion of TPST1 as a candidate gene" EUROPEAN JOURNAL OF HUMAN GENETICS, vol. 10, April 2002 (2002-04), pages 250-258, XP002268958 the whole document	
A	POPOVIC M ET AL.: "Refined mapping of the Shwachman-Diamond syndrome locus at 7p12-q11" AMERICAN JOURNAL OF HUMAN GENETICS, vol. 67, no. 4Sp2, October 2000 (2000-10), page 321 XP002268959 abstract	
P,X	BOOCCOCK G R B ET AL.: "Mutations in SBDS are associated with Shwachman-Diamond syndrome" NATURE GENETICS, vol. 33, January 2003 (2003-01), pages 97-101, XP001184139 the whole document	1-52

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 03/01320

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 1-25 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Although claims 26-30 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.2

Sequence ID NOS disclosed within claims 7, 18, and 48, referring to SEQ ID NOS:3-28, and 32-35, were interpreted as to be SEQ ID NOS:4-29, and 33-36 (as compared with the sequence listing with letter from 16.12.2003).

Present claims 31, 42, 44, 46, 47, and 49-52, relate to products and a method defined by reference to a desirable characteristic or property, namely...

- a nucleic acid molecule encoding and SBDS protein (claim 31),
- an SBDS protein (claim 42),
- an antibody binding specifically to an epitope of an SDS protein (claim 44),
- a hybridoma cell line producing such an antibody (claim 46),
- a method for preparing an SDS protein by expressing its nucleotide sequence in a suitable expression system (claim 47),
- a transgenic non-human animal comprising in its genome a mutated SBDS gene (claims 49-51), and
- a kit comprising a pair of primers suitable for amplifying a part of a SBDS gene (claim 52).

The claims cover all products or a method having these characteristics or properties, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products and method. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the products and method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the products of claims 31, 42, 44, 46, and 49-52, relating to SEQ ID NOS:1-29, as claimed, as well as a method of expression (claim 47), also relying on the SEQ ID NOS:1-29.

Evidence of disposal of the cell line as claimed within claim 46, must be provided.

Present claims 35, 41, 43 and 45 relate to SEQ ID NO:29 which should represent an encoding amino acid sequence, but in fact does represent a

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

short oligonucleotide/primer sequence (see sequence listing). Since it is not apparent which SEQ ID NO is meant instead, consequently the (parts of the) claims 35, 41, 43 and 45, referring to SEQ ID NO:29, lack conciseness within the meaning of Article 6 PCT to such an extent as to render a meaningful search of these (parts of the) claims impossible. Furtheron, it is assumed that the first part of claim 35 refers to SEQ ID NO:2, likewise to claims 43 or 45. Thus, the search of claims 35, 41, 43 and 45 was limited to SEQ ID NO:1 or 2, respectively.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 03/01320

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1074617	A	07-02-2001	
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